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LATE-ACQUIRED INCOMPLETE STENT APPOSITION AFTER EVEROLIMUS-ELUTING STENT VERSUS SIROLIUMS-ELUTING STENT IMPLANTATION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION (APPOSITION-AMI)

Moderated Poster Contributions
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Background: Incidence, mechanism and clinical outcomes of late-acquired incomplete stent apposition (LAISA) after first and second generation drug-eluting stent implantation in patients with acute myocardial infarction (AMI) remained controversial.

Methods: Late-Acquired incomplete stent aPPOsition after everolimus-eluting stent versus sirolimus-eluting Stent ImplanTatION in patients with Acute Myocardial Infarction (APPOSITION-AMI) study was a prospective, randomized study comparing of LAISA after everolimus-eluting stent (EES) and sirolimus-eluting stent (SES) in patients with AMI. An intravascular ultrasound (IVUS) examination was serially performed at post-procedure and follow-up (8 to 9 months) in 195 AMI patients with 205 native coronary lesions (100 EES, 105 SES). After detection of LAISA, a cumulative incidence of 1 year major adverse cardiac events (MACE) including cardiac death, myocardial infarction, and target lesion revascularization and stent thrombosis (ST) was evaluated in patients with and without LAISA.

Results: LAISA was observed in 6.0(6/100)% EES- versus 16.2(17/105)% SES-treated lesions (P=0.021). In SES-treated lesions, LAISA was caused by positive remodeling in 64.7%, whereas thrombus/plaque dissolution was observed in 66.7% of EES-treated lesions. The MACE was developed only one patient in SES (4.5%) and there was no ST in both stents at 1 year in patients with LAISA. The use of SES (OR 3.19, CI 1.18-8.57, p=0.02) and left ventricular ejection fraction <50% (OR 2.82, CI 1.15-6.91, p=0.02) were independent predictors of LAISA.

Conclusion: The incidence of LAISA was lower in AMI patients treated with EES compared to SES. LAISA was likely to occur by positive remodeling in SES-treated lesions but may not be in EES-treated lesions. In patients with LAISA, both stents showed a very low incidence of MACE at 1 year.